REMARKS

Claims 1-25 are pending in this application, of which claims 1, 13 and 19, are being amended; and claims 2-4, 8, 16, 20, 21 and 23 are being cancelled.

The claim amendments add no new matter and their entry is respectfully requested. The amendments to claim 1 are taken from claims 2 and 4. The amendment to claim 13 is from pending claim 16. The amendments to claim 19 are from claims 20, 21 and 23.

The amendments to the Specification are to correct typographical errors and add no new matter.

Rejection Under 35 U.S.C. 102(b)

The Examiner rejected claims 1, 3-10, 12-19, and 21-25 under 35 U.S.C. 102 (b) as being anticipated by Watanabe et al. (U.S. Patent no. 5,384,682).

Watanabe et al. does not teach claim 1, as amended, which is to an electrostatic chuck comprising a dielectric member comprising (i) a first layer comprising a semiconductive material having a resistivity of from about 5 x 10^9 Ω cm to about 8 x 10^{10} Ω cm; and (ii) a second layer comprising an insulative material having a resistivity of from about 1 x 10^{11} to about 1 x 10^{20} Ω cm; and an electrode in the first layer of the dielectric member.

To anticipate to claim under section 102(a), the cited reference has to disclose each and every element of the claim.

As acknowledged by the Examiner, Watanabe et al. "does not disclose wherein the first layer comprises a resistivity of from about (5.times.10.supp.9. OMEGA.cm) to about (8.times.10.supp.10.OMEGA.cm)."

This undisclosed language has now been placed in claim 1. Thus, Watanabe et al. does not anticipate claim 1 as Watanabe et al .does not disclose each and every element of claim 1.

For the same reason, Watanabe et al. does not anticipate claim 13 which also recites a first layer comprising a resistivity of from about 5 x 10^9 Ω cm to about 8 x 10^{10} Ω cm.

Similarly, claim 19 as amended, also recites a first semiconductive layer having a resistivity of from about 5 x 10^9 Ω cm to about 8 x 10^{10} Ω cm. Accordingly, Watanabe et al. also does not anticipate claim 19.

For these reasons, the rejection under section 102(a) should now be withdrawn.

Rejection Under 35 U.S.C. 103(a)

The Examiner further rejected claims 2, 11, and 20 under 35 U.S.C. 103 (a) as obvious over Watanabe et al. (U.S. Patent no. 5,384,682) in view of Donde et al. (U.S. Patent no. 5,729,423).

The Examiner acknowledges that Watanabe et al. it does not teach a first layer of semiconductive material having "a resistivity of from about (5.times.10.supp.9. OMEGA.cm) to about (8.times.10.supp.10.OMEGA.cm)", as claimed in claim 1.

Further Watanabe et al. also does not teach placing an electrode in the first layer comprising a resistivity of from about 5 x 10^9 Ω cm to about 8 x 10^{10} Ω cm as claimed in amended claim 1. Since Watanabe et al. does not teach a layer having the claimed range of resistivity; thus, Watanabe et al. also cannot be teaching placing an electrode in the layer having the claimed range of resistivity.

The combination of Watanabe et al. and Donde et al. also does not teach or suggest the claimed electrostatic chuck because the cited references do not teach or suggest a combination of a first layer comprising a semiconductive material having a resistivity of from about 5×10^9 Ω cm to about 8×10^{10} Ω cm, and a second layer comprising an insulative material having a resistivity of from about 1×10^{11} to about 1×10^{20} Ω cm, as recited in claim 1.

As explained above, Watanabe et al. also does not teach a first layer comprising a resistivity of from about 5×10^9 Ω cm to about 8×10^{10} Ω cm as claimed in amended claim 1, or placing an electrode in a layer having this range of resistivity.

Donde et al. not teach or suggest a combination of a first layer comprising a semiconductive material having a resistivity of from about 5×10^9 Ω cm to about 8×10^{10} Ω cm; and a second layer comprising an insulative material having a resistivity of from about 1×10^{11} to about 1×10^{20} Ω cm, as recited in claim 1.

However, the claimed combination of first and second layers each having a particular range of electrical resistance is not simply an optimum or workable range as suggested by the Examiner. Applicant has discovered that claimed combination of layers provides unique an unexpected benefits by providing the advantages of both a semiconductive layer and an insulative layer. The insulative layer can be positioned about the semiconductive layer to reduce electrical discharges from the electrode to the surrounding chamber surfaces. For example, in one embodiment, the current specification teaches positioning the more insulative layer having the higher resistance about the periphery of the electrode. (Specification, page 32, line 27 to page 33, line 3.) specifically, it is taught that:

> ... In this version, the second dielectric member 174 comprises an insulator that has a higher resistivity than the semiconducting dielectric member to prevent plasma discharge at the exposed peripheral portions of the chuck. The resistivity of the insulating second dielectric member 174 is sufficiently high to prevent electrical discharge or arcing between the surrounding plasma environment and

> the peripheral portions of the chuck electrode. Preferably, the second dielectric member 174 has a resistance of at least about 1 x 10^{11} Ω cm, and more preferably from about 10^{13} Ω cm to about 1 x 10^{20} Ω cm. This configuration prevents shorting and arcing between the leaky semiconducting dielectric member and the plasma and the resultant pinholes in the dielectric member that cause failure of the chuck.

(Specification, page 33, line 11-21.) Neither of the Watanabe et al. or Donde et al. references teach this configuration.

Nor does Watanabe et al. or Donde et al. teach or suggest, another configuration taught by the Specification in which "[t]he composite dielectric member 115 can also be made from multiple vertically stacked layers." (Specification, page 33, lines 28-29.)

Watanabe et al. teaches that "It is an object of the present invention to provide an electrostatic chuck whose residual electrostatic forces can be reduced in a short period of time and which has a protective film that does not lower attractive forces produced by the electrostatic chuck." (Watanabe et al., Summary of the Invention). However, Watanabe et al. does not provide the motivation to derive a chuck in which first and second layers are positioned to prevent plasma discharge at portions of the chuck. Nor does Donde et al. provide the motivation to derive a combination of layers having the claimed properties. Further, neither Watanabe et al. nor Donde et al. teach a multilayer dielectric having the claimed layers and their ranges of resistivity.

For the same reason, Watanabe et al. or Donde et al. do not teach or suggest claim 13 which is to an electrostatic chuck comprising a dielectric member comprising (i) a first layer comprising a resistivity of from about 5 x 10^{9} Ω cm to about 8 x 10^{10} Ω cm; and (ii) a second layer comprising a resistivity of from about 1 x 10^{11} to about 1 x 10^{20} Ω cm; and (b) an electrode in the first layer of the dielectric member

Further, Watanabe et al. or Donde et al. also do not teach or suggest

claim 19 which is to an electrostatic chuck comprising a dielectric member comprising (i) a first semiconductive layer having a resistivity of from about 5 x 10^9 Ω cm to about 8 x 10^{10} Ω cm and that is sufficiently low to provide (i) a charging time of less than about 3 seconds, and (ii) allow accumulated electrostatic charge to substantially dissipate in less than about 1 second; and (ii) a second insulative layer having a resistivity higher than the first semiconductive layer and from about 1 x 10^{11} to about 1 x 10^{20} Ω cm; and (b) an electrode embedded in the first semiconductive layer of the dielectric member, for the same reasons.

Consequently, Watanabe et al. and Donde et al. do not teach or suggest claims 1, 13 or 19, and the claims dependent therefrom.

CONCLUSION

The above-discussed amendments are believed to place the present application in condition for allowance. Should the Examiner have any questions regarding the above remarks, the Examiner is requested to telephone Applicant's representative at the number listed below.

Respectfully submitted,
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Date: October 23rd, 2006 By: _____

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